GenCore version 5.1.6


OM protein - protein search, using sw model

Run on: October 8, 2004, 12:43:42 ; Search time 57.8571 Seconds
(without alignments)
107.438 Million cell updates/sec

Dha

Title: US-10-013-036A-10
Perfect score: 85
Sequence: 1 FKXWXFXXPGXAKXGXFNXYXX 22

lgs-aminoacryl cysteine

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :
A_Geneseq_29Jan04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 71 | 83.5 | 21 | 4 | AAB81191 | Aab81191 Streptoco |
| 2 | 71 | 83.5 | 22 | 3 | AAY77448 | Aay77448 Streptoco |
| 3 | 71 | 83.5 | 22 | 3 | AAY77447 | Aay77447 Streptoco |
| 4 | 71 | 83.5 | 22 | 4 | AAB81190 | Aab81190 Streptoco |
| 5 | 71 | 83.5 | 25 | 3 | AAY77449 | Aay77449 Derivativ |
| 6 | 71 | 83.5 | 25 | 4 | AAB81192 | Aab81192 Derivativ |
| 7 | 67 | 78.8 | 22 | 6 | ABG71733 | Abg71733 S. mutans |
| 8 | 67 | 78.8 | 22 | 6 | ABG71734 | Abg71734 S. mutans |
| 9 | 64 | 75.3 | 22 | 6 | ABG71732 | Abg71732 S. mutans |
| 10 | 63 | 74.1 | 22 | 6 | ABG71737 | Abg71737 S. mutans |
| 11 | 62 | 72.9 | 22 | 6 | ABG71736 | Abg71736 S. mutans |
| 12 | 62 | 72.9 | 22 | 6 | ABG71735 | Abg71735 S. mutans |
| 13 | 62 | 72.9 | 62 | 6 | ABG72549 | Abg72549 Streptoco |
| 14 | 62 | 72.9 | 63 | 2 | AAW90343 | Aaw90343 S. mutans |
| 15 | 62 | 72.9 | 63 | 6 | ABG71726 | Abg71726 S. mutans |
| 16 | 61 | 71.8 | 22 | 6 | ABG71730 | Abg71730 S. mutans |
| 17 | 58 | 68.2 | 22 | 6 | ABG71728 | Abg71728 S. mutans |
| 18 | 58 | 68.2 | 22 | 6 | ABG71731 | Abg71731 S. mutans |
| 19 | 58 | 68.2 | 22 | 6 | ABG71729 | Abg71729 S. mutans |
| 20 | 45 | 52.9 | 22 | 1 | AAP91366 | Aap91366 Sequence |
| 21 | 45 | 52.9 | 47 | 2 | AAR85080 | Aar85080 Hyicin M5 |
| 22 | 45 | 52.9 | 51 | 6 | ABG72550 | Abg72550 Streptoco |
| 23 | 45 | 52.9 | 52 | 1 | AAP98498 | Aap98498 Sequence |
| 24 | 45 | 52.9 | 52 | 2 | AAR37315 | Aar37315 EpiA prot |
| 25 | 45 | 52.9 | 52 | 2 | AAY03210 | Aay03210 Amino aci |
| 26 | 45 | 52.9 | 52 | 2 | AAY43430 | Aay43430 S. epider |
| 27 | 43 | 50.6 | 21 | 3 | AAB11031 | Aab11031 S. gallin |
| 28 | 43 | 50.6 | 22 | 1 | AAP60405 | Aap60405 Sequence |
| 29 | 41 | 48.2 | 47 | 6 | ABM71112 | Abm71112 Staphyloc |
| 30 | 36 | 42.4 | 519 | 6 | ABM70476 | Abm70476 Photorhab |
| 31 | 35 | 41.2 | 29 | 2 | AAR60073 | Aar60073 Bovine Ov |
| 32 | 35 | 41.2 | 125 | 4 | AAO12870 | Aao12870 Human pol |
| 33 | 35 | 41.2 | 173 | 2 | AAR34536 | Aar34536 MUREG-2. |
| 34 | 35 | 41.2 | 242 | 2 | AAR45020 | Aar45020 Staphyloc |
| 35 | 35 | 41.2 | 242 | 4 | AAB67347 | Aab67347 Staphyloc |
| 36 | 35 | 41.2 | 242 | 5 | ABB76243 | Abb76243 Staphyloc |
| 37 | 35 | 41.2 | 514 | 4 | AAG98856 | Aag98856 E. coli g |
| 38 | 35 | 41.2 | 537 | 2 | AAR73991 | Aar73991 Bovine ov |
| 39 | 35 | 41.2 | 822 | 4 | ABG22519 | Abg22519 Novel hum |
| 40 | 34 | 40.0 | 11 | 2 | AAY43460 | Aay43460 Flavoprot |
| 41 | 34 | 40.0 | 86 | 4 | AAU20727 | Aau20727 Human nov |
| 42 | 34 | 40.0 | 135 | 4 | AAO01562 | Aao01562 Human pol |
| 43 | 34 | 40.0 | 142 | 5 | ABB89839 | Abb89839 Human pol |
| 44 | 34 | 40.0 | 258 | 4 | ABB69164 | Abb69164 Drosophil |
| 45 | 34 | 40.0 | 426 | 4 | AAB95474 | Aab95474 Human pro |

ALIGNMENTS

RESULT 1
AAB81191
ID AAB81191 standard; peptide; 21 AA.
XX
AC AAB81191;
XX
DT 18-JUL-2001 (first entry)
XX
DE Streptococcus mutans mutacin B-Ny266.
XX
KW Mutacin; B-Ny266; type A lantibiotic; bactericide; gram-positive;
KW antibacterial; growth inhibition; post-translational modification;
KW biopreservative; anticaries agent; disinfectant; lanthionine.
XX
OS Streptococcus mutans.
XX
FH Key Location/Qualifiers
FT Modified-site 3. .7
FT /note= "Residues 3 and 7 combine to form lanthionine"
FT Modified-site 5
FT /note= "2,3-didehydroalanine"
FT Modified-site 8. .11
FT /note= "Residues 8 and 11 combine to form beta-methyl
FT lanthionine"
FT Modified-site 8
FT /label= Abu
FT Modified-site 14
FT /note= "(2)-2,3-didehydrobutyrine"
FT Modified-site 16. .21
FT /note= "Residues 16 and 21 combine to form lanthionine"
FT Modified-site 19. .21
FT /note= "Residues 19 and 21 combine to form Dha-S-Ala
FT (AVI)"
FT Modified-site 19
FT /note= "2,3-didehydroalanine"
XX
PN US6218362-B1.
XX
PD 17-APR-2001.
XX
PF 08-SEP-1997; 97US-00924952.
XX
PR 08-SEP-1997; 97US-00924952.
XX
PA (UYLA-) UNIV LAVAL.
XX
PI Lavoie M, Mota-Meira M, Lacroix C, Lapointe G;
XX

DR WPI; 2001-289846/30.
XX
PT Novel mutacin B-Ny266 polypeptide having a spectrum of antibacterial
PT activity, useful for combating bacteria and for treating bacterial
PT infections.
XX
PS Claim 3; Fig 1; 11pp; English.
XX
CC This sequence represents mutacin B-Ny266, which is post-translationally
CC modified from a precursor peptide, pro-B-Ny266 (AAB81190). Mutacin B-
CC Ny266 is a type A lantibiotic isolated from Streptococcus mutans. Mutacin
CC is related to Epidermin and Gallidermin (other lantibiotics), and
CC contains lanthionine and beta-methyl lanthionine residues. B-Ny266 has
CC potent antibacterial activity against 98% of the S. mutans strains
CC tested, and also exhibits antibacterial against gram positive bacteria
CC including Actinobacilli, Actinomyces such as A.viscous, Bacillus sp.,
CC Enterococci, Clostridium sp., Corynebacterium diphteriae, Listeria
CC monocytogenes, Mycobacterium phlei, Neisseria, Propionobacterium acnes,
CC Staphylococcus and Streptococcus, and Gram-negative strains, e.g.
CC Flavobacterium capsulum. B-Ny266 may also be used as a biopreservative
CC and/or stabiliser for cosmetics, in personal hygiene products, as an
CC anticaries agent e.g. in toothpastes and mouth washes, as a disinfectant
CC cleanser, e.g. in an anti-acne composition, in foodstuffs for preventing
CC spoilage, e.g. meats, dairy products, beer and wine, and as a selective
CC agent in culture media
XX
SQ Sequence 21 AA;

Query Match 83.5%; Score 71; DB 4; Length 21;
Best Local Similarity 80.0%; Pred. No. 4e-07;
Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

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Qy          1 FKXWXFXXPGXAKXGXFNXY 20
              || ||| ||| |||| ||||
Db          1 FKAWXFAXPGAAKXGAFNXY 20
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RESULT 2
AAY77448
ID AAY77448 standard; peptide; 22 AA.
XX
AC AAY77448;
XX
DT 12-SEP-2003 (revised)
DT 22-MAY-2000 (first entry)
XX
DE Streptococcus mutans mutacin B-Ny266.
XX
KW Mutacin; lantibiotic type A; post-translational modification;
KW bacteriocin; Gram-positive; bactericide; antibacterial;
KW growth inhibition.
XX
OS Streptococcus mutans; str. Ny266.
XX
FH Key Location/Qualifiers
FT Modified-site 3. .7
FT /note= "Residues 3 and 7 combine to form lanthionine"
FT Modified-site 5
FT /note= "2,3-didehydroalanine"
FT Modified-site 8. .11
FT /note= "Residues 8 and 11 combine to form beta-methyl
FT lanthionine"
FT Modified-site 14
FT /note= "(2)-2,3-didehydrobutyrine"
FT Modified-site 16. .21
FT /note= "Residues 16 and 21 combine to form lanthionine"
FT Modified-site 19. .22
FT /note= "Residues 19 and 21 combine to form Dha-S-Ala
FT (AVI)"
XX
PN CA2209893-A1.
XX
PD 08-MAR-1999.
XX
PF 08-SEP-1997; 97CA-02209893.
XX
PR 08-SEP-1997; 97CA-02209893.
XX
PA (UYLA-) UNIV LAVAL.
XX
PI Lacroix C, Mota-Meira M, Lapointe G, Lavoie M;
XX
DR WPI; 2000-171582/16.
XX
PT Novel mutacin isolated from Streptococcus mutans designated and B-Ny266,
PT useful for treating Gram positive bacterial infections.
XX
PS Claim 3; Fig 1; 42pp; English.
XX
CC This sequence represents mutacin B-Ny266, which is post-translationally
CC modified from a precursor peptide, pro-B-Ny266 (AAY77447). Mutacin B-
CC Ny266 is a 2.27 kD bacteriocin isolated from Streptococcus mutans strain
CC Ny266. It is a type A lantibiotic, containing lanthionine and beta-methyl
CC lanthionine bridges, and unsaturated amino acids such as 2,3-
CC didehydroalanine, (2)-2,3-didehydrobutyrine and 2-aminobutyric acid
CC (Abu). However, its amino acid sequence differs substantially from those
CC of other type A lantibiotics. Mutacin B-Ny266 is structurally related to
CC the lantibiotics epidermin and gallidermin, and has potent antibacterial
CC activity against 98% of the S. mutans strains tested and all other of the
CC Gram positive bacteria tested, including Neisseria subflava, Clostridium
CC bifermentans and Bacillus cereus. It was additionally shown to inhibit
CC the growth of the Gram-negative bacterium Flavobacterium capsulatum,
CC indicating that the activity of mutacin B-Ny266 is not limited to Gram-
CC positive strains. The mutacin is used to treat Gram positive infections
CC in animals (especially humans infected with Actinobacilli, Bacillus
CC species, Clostridium species, Corynebacteria, Enterococci, Listeria
CC monocytogenes, Neisseria species, Mycobacterium phlei, Staphylococci,
CC Streptococci, and Propionobacter species). B-Ny266 may also be used as a
CC biopreservative and/or stabiliser for cosmetics, in personal hygiene
CC products, as an anticaries agent (e.g. in toothpastes and mouth washes),
CC as a disinfectant cleanser (e.g., in an anti-acne composition), in
CC foodstuffs for preventing spoilage (e.g., meats, dairy products, beer,
CC and wine), and as a selective agent in culture media. (Updated on 12-SEP-
CC 2003 to standardise OS field)
XX
SQ Sequence 22 AA;

Query Match 83.5%; Score 71; DB 3; Length 22;
Best Local Similarity 80.0%; Pred. No. 4.2e-07;
Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

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Qy          1 FKXWXFXXPGXAKXGXFNXY 20
              || ||| ||| |||| ||||
Db          1 FKAWXFAXPGAAKXGAFNXY 20
```

RESULT 3
AAY77447
ID AAY77447 standard; peptide; 22 AA.
XX
AC AAY77447;
XX
DT 12-SEP-2003 (revised)
DT 22-MAY-2000 (first entry)
XX
DE Streptococcus mutans mutacin precusor, proB-Ny266.
XX
KW Mutacin; precursor; lantibiotic type A; post-translational modification;
KW bacteriocin; Gram-positive; bactericide; antibacterial;
KW growth inhibition.
XX
OS Streptococcus mutans; str. Ny266.
XX
PN CA2209893-A1.
XX
PD 08-MAR-1999.